CLAIMS

1. A heat sink comprising:

a core having a central axis; and

a plurality of cooling fins arranged about the core, each fin having a base and a tip, wherein said fins are shaped to capture a tangential component of air from the fan and wherein at least one portion of each of said fins is bent.

2. The heat sink recited in claim 1, wherein the fins are curved towards the tangential component.

3. The heat sink recited in claim 1, wherein an upper portion of each of the fins is bent towards the tangential component.

4. The heat sink recited in claim 3, wherein a lower portion of each of said fins is also bent towards the tangential component.

5. The heat sink recited in claim 1, wherein another portion of each of said fins is bent.

6. The heat sink recited in claim 1, wherein each of said fins is provided in a swept manner about said core.

7. A heat sink for use with an axial flow fan comprising:

a core having a central axis; and

a plurality of cooling fins arranged about the core, each fin having a base and a tip, wherein each of said fins is provided in a swept manner about said core.

8. The heat sink recited in claim 7, wherein an upper portion of each of the fins is bent.

9. The heat sink recited in claim 8, wherein a lower portion of each of said fins is also bent.

10. The heat sink recited in claim 7, further comprising:

a first face having a semi-rectangular periphery that is defined by the fin bases, and which is to thermally contact a heat-generating electrical component.

11. The heat sink recited in claim 10, further comprising:

a second face, substantially opposite the first face, and having a periphery that is defined by the fin tips.

12. The heat sink recited in claim 7, wherein the core comprises a central cavity to receive a thermal plug formed of a material having a high thermal conductivity.

13. An electronic assembly comprising:

a substrate;

an electronic component mounted on a surface of the substrate;

an axial flow fan to move air towards the substrate, the air having an axial component and a tangential component; and

a heat sink including:

a first face in thermal contact with the electronic component;

a second face facing the fan;

a core having a central axis; and

a plurality of cooling fins arranged about the core, wherein at least one portion of each of said fins is bent.

14. The electric assembly recited in claim 13, wherein an upper portion of each of the fins is bent.

15. The electric assembly recited in claim 14, wherein a lower portion of each of said fins is also bent.

16. The electric assembly recited in claim 13, wherein another portion of each of said fins is bent.

17. The electric assembly recited in claim 13, wherein each of said fins is

provided in a swept manner about said core.

18. The electronic assembly recited in claim 13, wherein the electronic component comprises an integrated circuit (IC).

19. An electronic system comprising:

a circuit board;

a processor integrated circuit (IC) mounted on the circuit board;

at least one chipset mounted on the circuit board and electrically coupled to the processor IC for operation in conjunction with the processor IC;

at least one axial flow fan to move air towards the circuit board; and

at least one heat sink including

a first face in thermal contact with either the processor IC or the chipset;

a second face facing the at least one fan;

a core having a central axis; and

a plurality of cooling fins arranged about the core, each fin having a base and a tip, wherein at least one portion of each of said fins is bent.

20. The electric assembly recited in claim 19, wherein an upper portion of each of the fins is bent.

21. The electric assembly recited in claim 20, wherein a lower portion of each of

said fins is also bent.

22. The electric assembly recited in claim 19, wherein another portion of each of said fins is bent.

23. The electric assembly recited in claim 19, wherein each of said fins is provided in a swept manner about said core.

24. A method of forming a heat sink, said method comprising:

obtaining a quantity of thermally conductive metal;

forming from the quantity a plurality of fins extending outwardly from a core, the core having a central axis, each fin having a base coupled to the core; and

forming a bend in each of said fins.

25. The method recited in claim 24, wherein forming said bend in each of said fins comprises coupling said heat sink to a die and rotating said die relative to a fixed position so as to create said bend in each of said fins.

26. The method recited in claim 24, wherein forming said bend in each of said fins comprises coupling said heat sink to a first die and to a second die, and rotating said first die relative to said second die so as to create said bend in each of said fins.

27. The method recited in claim 24, wherein before forming said bend, said method comprises:

separating a portion of each fin from the core.

28. The method recited in claim 24, wherein forming said plurality of fins comprises extruding the quantity of thermally conductive metal through an extrusion die.

29. The method recited in claim 28, wherein the thermally conductive metal comprises aluminum.

30. The method recited in claim 28, wherein said plurality of fins are formed in a swept manner about said core.

31. The method recited in claim 28, wherein each of said plurality of fins are curved.

32. The method recited in claim 24, further comprising forming another bend in each of said fins.

33. A method of making an electronic assembly, the method comprising:

mounting an electronic component on a circuit board;

providing an axial flow fan, the fan capable of moving air; and

mounting a heat sink between the electronic component and the fan, the heat sink comprising a plurality of cooling fins arranged about a core having a central axis, each fin having a base coupled to the core, wherein a portion of each of said fins is bent.

34. The method recited in claim 32, wherein the electronic component is from the group consisting of a processor, a chipset integrated circuit (IC), a digital switching circuit, a radio frequency (RF) circuit, a memory circuit, a custom circuit, an application specific IC (ASIC), and an amplifier.

35. The method recited in claim 32, wherein each fin has a tip, wherein a first face of the heat sink is in thermal contact with the electronic component and has a periphery that is defined by the fin tips, and wherein a second face of the heat sink, substantially opposite the first face, faces the fan and has a periphery that is defined by the fin tips.